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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,212	12/09/2005	Rudolfus Antonious Van Benthem	21580USWO (C038435/019415	2957

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EXAMINER	
FREEMAN, JOHN D	
ART UNIT	PAPER NUMBER
1787	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,212	VAN BENTHEM, RUDOLFUS ANTONIOUS	
	Examiner	Art Unit	
	John Freeman	1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 May 2010 has been entered.

Claim Rejections - 35 USC § 103

2. Claims 1, 4, 5, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rätzsch et al. (WO 02/48261) in view of Skoultchi et al. (US 4,770,668).

3. The examiner provides the national stage filing of the international application, US 2005/0020750, as an English translation of WO '261. All references herein refer to US '750.

4. Regarding claims 1 and 4:

5. Rätzsch discloses aminoplast resins [0002]. Such resins include polycondensates of melamine derivatives and C_1-C_{10} aldehydes [0014]. Rätzsch uses the resins to make microcapsules [0012]. The process to make the microcapsules includes adding the precondensates into an aqueous dispersion of a "core former", curing and then drying the microcapsules [0044].

6. Rätzsch is silent, however, with regard to an aldehyde having an ester endgroup.

7. Skoultchi discloses condensation products of cyclic amines and aldehydes, or their derivatives, to form crosslinking resins without the use of toxic formaldehyde (col 1 ln 7-15; col 2 ln 12-54). The condensation products can be formed from glyoxylic acid hemiacetals, which exhibit reactive properties over a wide pH range (col 4 ln 57-68).

8. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use glyoxylic acid hemiacetals as the aldehyde of Rätzsch's invention because it was a known functional equivalent to Rätzsch's exemplary aldehydes while avoiding the use of toxic formaldehyde, yet providing reactivity over a wide pH range.

9. Regarding claim 5:

10. The ratio of melamine derivative to aldehyde ranges from 1:1 to 1:6 [0014].

11. Regarding claim 14:

12. Skoultchi teaches the ester is preferably a methyl- or ethyl-ester (col 5 ln 32-34).

Response to Arguments

13. Applicant's arguments filed 10 May 2010 have been fully considered but they are not persuasive.

14. Applicant points to Rätzsch's examples and notes there are "no Examples of the preparation of microcapsules" (p8).

15. Regarding a lack of examples, note "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967).

16. Applicant submits no motivation or expectation of success at combining Rätzsch with Skoultchi can be found (p11).

17. The examiner respectfully disagrees. Rätzsch discloses microcapsules comprising the condensation product of melamine and aldehydes, but is silent with regard to ester-containing aldehydes. Skoultchi discloses condensation products of hemiacetal glyoxylate esters that exhibit reactivity over a wide range of pH values. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the glyoxylate esters as the aldehyde required by Rätzsch due to their greater reactivity over a wider pH.

18. Applicant submits the examiner's rejection is based on impermissible hindsight reconstruction (p18). In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

19. Applicant submits a Declaration that shows data from Example 1 of the specification and Attempts A-D. With the Declaration, Applicant attempts to show an artisan "would not have predicted success in using methyl glyoxylate as the aldehyde in place of the aldehyde of Rätzsch reacted with melamine" (p6 of Declaration).

20. Applicant reproduces Example 1, which describes the reaction between methyl glyoxylate and melamine to form capsules. The Attempts A-D describe Applicant's attempts at forming capsules from glyoxylic acid and melamine. Each Attempt changed a slight portion of the procedure to try to create capsules. The closest at success was Attempt D, but "encapsulation did not occur or sufficient encapsulation did not occur during the procedure" (p11).

21. The examiner appreciates Applicant's efforts to create the data in the Declaration, but does not find the data persuasive for the following reasons:

22. First, the examiner notes the presented data appear to conflict with the present specification. Applicant states one can create the compound (I) shown on page 2 of the specification by reacting an aldehyde (II), which includes glyoxylic acid as disclosed on page 4 line 1 (apparently misspelled as "glyoxilic acid"). Therefore, it appears the reaction can proceed, but the specific conditions used by Applicant for the purposes of the declaration did not.

23. Regarding Applicant's argument that Skoultchi uses urea rather than melamine is unpersuasive. One of ordinary skill would recognize that the change of an oxygen atom to an amino-group at the position identified by X in the present application, would not significantly affect the reaction outlined by Skoultchi. The aldehyde would still react at the nitrogen in the heterocycle.

24. Regarding temperature, between Attempts A-C Applicant varies the methods of raising the temperature of the reactants: Attempt A-stirring both at room temperature and heating, Attempt B-preheat the glyoxylic acid then gradually adding room-temperature melamine, and Attempt C-gradually adding room-temperature melamine to room-temperature glyoxylic acid. However, the attempts may have been unsuccessful simply because the reaction temperature was too high rather than because of what manner the reactants were brought to the temperature.

25. Regarding Attempt D, Applicant states the purpose of the Attempt was to vary the molar ratio of melamine to glyoxylic acid. However, the change in ratio appears to be so small as to be nearly meaningless (2.03 vs. 2.01, or a 1% difference). Rätzsch teaches a range of ratios 1:1 to 1:6 [0014]. Applicant has not shown the reactivity of glyoxylic acid across this range.

26. The major difference that appears to have had an effect on the relative success of Attempt D is the time spent stirring the mixture and the use of lower temperatures. In Attempt A the reaction mixture is stirred in an oil bath at 80˚C for at least 14 minutes until mixing becomes impossible. In Attempt D the reaction mixture is stirred in an oil bath at 80˚C for only 5 minutes before being placed in an oil bath at 50˚C for subsequent formation of capsules.

27. Finally, the examiner notes the ability to create clear products of melamine and glyoxylic acid was known in the art. For example, previously cited Ebel (US 4,888,412) discloses such clear mixtures in Examples 6-9 (col 6). Note Ebel's Example 7 reacts at a lower temperature (70˚C) than Applicant's data.

28. **NOTE:** In the interest of compact prosecution, the examiner notes the addition of a temperature for the process would appear to overcome the prior art. Page 4 lines 11-12 disclose the temperature ranges from 10˚-90˚C. The examiner notes Rätzsch is silent with regard to temperatures used for making capsules. Furthermore, even if Rätzsch or other references disclose temperatures falling within said range, they would not appear combinable with Skoultchi given that Skoultchi teaches reactions with glyoxylic ester acetals can be conducted at 130˚-170˚C (col 5 ln 11-20).

Conclusion

29. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 9:00-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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